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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/593,857	09/22/2006	Nam Hun Kim	58409/N305	5813
23363 7590 06/23/2008 CHRISTIE, PARKER & HALE, LLP PO BOX 7068 PASADENA, CA 91109-7068				
EXAMINER DEO, DUY VU NGUYEN				
ART UNIT 1792		PAPER NUMBER		
MAIL DATE 06/23/2008		DELIVERY MODE PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/593,857

**Applicant(s)**

KIM, NAM HUN

**Examiner**

Duy-Vu N. Deo

**Art Unit**

1792

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 April 2008.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☒ Claim(s) 1, 2, 5 and 6 is/are allowed.  
6) ☒ Claim(s) 3 and 4 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☒ Claim(s) 7-12 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 22 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO/SF-08)  
Paper No(s)/Mail Date 9/22/06  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 3, 4 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the distance between the wafer center and the dome is about the same as the distance between the wafer edge and the dome, figure 1, does not reasonably provide enablement for a distance between the wafer edge and the dome is relatively longer than a distance between a wafer center and the dome. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims. It appears that the chamber is rectangular according to figure. It is not sure how a distance between the wafer edge and the dome is longer than a distance between a wafer center and the dome.

### ***Allowable Subject Matter***

3. Claims 1, 2, 5, 6 are allowed because prior art doesn't teach or suggest the limitations of the claimed invention including:
4. Claim 1: A plasma chamber comprising a chamber body for defining a reaction space capable of forming plasma by a sidewall, a lower exterior wall, and an upper dome; a plasma source coil arranged on the dome, for including unit coils arranged to have a predetermined turning number "n" calculated using a predetermined value

of  $n \sim a \times (b/m)$  (where "a" and "b" are both positive integers, and "m" is indicative of the number of unit coils corresponding to an integer greater than "2"), allowing the unit coils to be extended from a center bushing which has a predetermined radius at a center part, and allowing the unit coils to be spirally arranged along a circumference of the center bushing, such that the plasma is formed in the reaction space; and a cylindrical-shaped edge bushing which is arranged between the dome of the chamber body and the plasma source coil, and overlaps with an edge of the wafer disposed in the reaction space.

5. Claim 5: A plasma chamber comprising a chamber body for limiting a size of a reaction space capable of forming plasma by a sidewall, a lower exterior wall, and an upper dome; and a plasma source coil arranged on the dome, for allowing a plurality of unit coils having a plurality of turning numbers to be extended from a center bushing which has a predetermined radius at a center part, and allowing the unit coils to be spirally arranged along a circumference of the center bushing, in which, as the unit coils are arranged in a direction from a center part of a wafer to an edge of the wafer, a distance from the dome is gradually increased, such that the unit coils are arranged stepwise and the plasma is formed in the reaction space.

#### ***Election/Restrictions***

6. Applicant's election of claims 1-6 in the reply filed on 4/17/08 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duy-Vu N. Deo whose telephone number is 571-272-1462. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on 571-272-1465. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Duy-Vu N Deo/  
Primary Examiner, Art Unit 1792

6/6/19/08